

ARMY RESEARCH DIVISION **ARROYO CENTER**

RAND

Research Brief

Improving Training Efficiency: Lessons from the Total Army School System

The U.S. Army has launched a series of initiatives to streamline and consolidate its extensive system of training institutions. One important objective has been to achieve cost economies while ensuring high-quality training, thus laying the foundation for a "Total Army School System" (TASS) that is more efficient and integrated across Army components (active and reserve). In *Resources, Costs, and Efficiency of Training in the Total Army School System*, researchers Michael G. Shanley, John D. Winkler, and Paul S. Steinberg present the final results for one major area in the assessment—resource use and efficiency of training both inside and outside a new prototype regional school system established by the Army in the southeastern region of the United States in the mid-1990s.

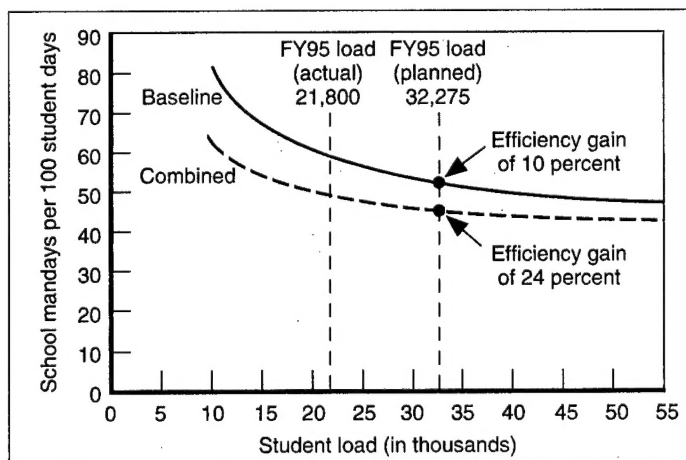
The analysis reveals that substantial increases in the efficiency of the Army school system can be achieved by undertaking any one of three strategies: (1) getting more soldiers into seats in scheduled courses at training institutions; (2) improving the course-by-course matching between qualified instructors and students needing training; and (3) consolidating support staff and, in some cases, training sites.

FILL TRAINING SEATS

Efficiency can improve in Army schools by simply raising the rate at which available training seats are filled by soldiers who need training. This opportunity to capture scale economies exists because of the relatively fixed nature of support staff functions—doubling the number of students does not double the number of required staff—and because many schools are currently operating at less than full capacity. Given that there are more students who require training than actually receive it, getting more students into seats should be possible simply by improving the management of training requirements.

The figure shows the efficiency gains that can be achieved if Army schools reach the level of operation

agreed to when student allocations were made. The top curve in the chart (marked "Baseline") approximates the operating realities of FY95 in selected combat service support (CSS) training courses, showing how efficiency varies with student load. The dashed vertical line at the left marks the actual FY95 student enrollment (21,800 students), resulting in an efficiency score of 59. Increasing the number of students to the planned student level (32,275, represented by the dashed vertical line to the right) yields a 10 percent efficiency gain (from 59 to 53 school mandays per 100 student days).



Increases in Efficiency

IMPROVE MATCH BETWEEN INSTRUCTORS AND STUDENTS

Efficiency can also increase by improving the match between the qualifications of the instructor cadre and the training needs of students. For maximum efficiency, Army schools should have the right number and distribution of instructors relative to the student population and its training needs. With too few or the wrong kind of instructors, schools have to cancel courses and thereby lose scale economies. With excess instructors for a partic-

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ular course, teachers are assigned to nonteaching tasks and student-instructor ratios fall below optimal levels. As a result, fewer students receive training than the instructor staff could potentially handle.

CONSOLIDATE STAFF

Improvements in efficiency can also be achieved through reductions in Army school support staffs. In this case, the amount of improvement depends on the starting point of enrollments. Beginning a consolidation with fewer students improves efficiency more than beginning with more students because the subsequent staff reductions are spread more widely. In addition, achieving these potential efficiency gains depends critically on how training is implemented and managed on the ground. Procedures that improve the availability of equipment and reduce the need for coordination can allow reductions in the number of support personnel. However, if support staffs are reduced without a decrease in "overhead" workload, adverse effects can result.

COMBINED EFFECT OF STRATEGIES

The lower curve on the figure (marked "Combined") shows the greater improvements in efficiency that can be achieved by implementing the above three strategies simultaneously. This means successful conversion of all planned training seats into students attending courses, an "achievable" increase in the utilization of instructors (about halfway between the current utilization and full usage), and a reduction of support staff equal to that spec-

ified in the original TASS design for U.S. Army school reorganization. In particular, the curve reveals that fewer instructor days are required for any given number of students because instructors are teaching more students on average, thus increasing student-instructor ratios. Most important, under such optimal circumstances, schools could achieve an efficiency gain of 24 percent (from 59 to 45 school mandays per 100 student days).

RECOMMENDATIONS

For individual Army schools to plan and schedule training more efficiently, accurate and timely estimates of student enrollments are needed. One way to accomplish this is to increase the flexibility of the sign-up system by, for example, earlier reassignment of training seats from units not using them to others that could. In addition, responsiveness and flexibility will be enhanced if schools can get more information about student locations for weekend drill training and about how to identify and obtain instructors outside the immediate organization.

The results of this study reveal that further gains will come from continuously reviewing and adjusting the composition of Army school staffs to reflect updated forecasts of student enrollments and differing training requirements. Pursuing this strategy may also mean giving the schools both more flexibility to make instructor substitutions and sufficient supplemental funds to hire part-time staff and support to respond effectively to unexpected changes in the educational environment.

RAND research briefs summarize research that has been more fully documented elsewhere. The research summarized in this brief was carried out in the RAND Arroyo Center; it is documented in Resources, Costs, and Efficiency of Training in the Total Army School System, by Michael G. Shanley, John D. Winkler, and Paul S. Steinberg, MR-844-A, 1997, 73 pp., \$9.00, ISBN: 0-8330-2516-3, available from RAND Distribution Services (Telephone: 310-451-7002; FAX: 310-451-6915; or Internet: order@rand.org). Abstracts of all RAND documents may be viewed on the World Wide Web (<http://www.rand.org>). Publications are distributed to the trade by National Book Network. RAND® is a registered trademark. RAND is a nonprofit institution that helps improve policy and decisionmaking through research and analysis; its publications do not necessarily reflect the opinions or policies of its research sponsors.

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